

## Recovery Plan Action Status

**Plan Name:** Final Recovery Plan for the Sierra Nevada Bighorn Sheep (*Ovis canadensis californiana*)

**Plan Status:** Final

**Plan Date:** 13-Feb-08

**Lead Agency:** USFWS

**Lead Office:** Ventura Fish And Wildlife Office

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Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Sierra Nevada bighorn sheep ( <i>Ovis canadensis sierrae</i> )	3	1.1	Identify and acquire important habitat not in public ownership from willing landowners	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service, CalTrans	Acquisition: Easement, Acquisition: Exchange, Acquisition: Fee Title, Acquisition: General, Acquisition: Management Agreement, Acquisition: Other	Internal Field Assistance, Internal Technical Assistance	Costs are TBD
Sierra Nevada bighorn sheep ( <i>Ovis canadensis sierrae</i> )	2	1.2	Maintain and/or enhance integrity of bighorn sheep habitat	Ongoing Current	FY 2000 - FY 2004		National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance	Note: Costs are TBD
Sierra Nevada bighorn sheep ( <i>Ovis canadensis sierrae</i> )	1	2.1	Prepare and implement a management plan to temporarily protect Sierra Nevada bighorn sheep herds from predation losses, where needed, until viable herd sizes are reached.	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Management: Planning, Management: Reintroduction	Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep ( <i>Ovis canadensis sierrae</i> )	1	2.2.1	Reduce potential predator influences on winter habitat selection where appropriate	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Management: Predator and Competitor Control	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep ( <i>Ovis canadensis sierrae</i> )	1	2.2.2	Supplement small female groups where appropriate to attain threshold herd sizes that will encourage behavioral attributes favorable to winter range use	Not Started			California Department of Fish and Game	Management: Reintroduction	Internal Field Assistance, Internal Technical Assistance	Note: estimated cost \$3,000 per animal captures; number captured per year to be determined (TBD).

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Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	2.2.3	Enhance bighorn sheep winter range habitat to increase visibility where appropriate	Ongoing Current	FY 2007		National Park Service, California Department of Fish and Game, U.S. Forest Service	Management: Habitat Maintenance and Manipulation	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	1	2.3.1	Prevent contact between bighorn sheep and domestic sheep or goats	Ongoing Not Current	FY 2000 - FY 2004		Los Angeles Department of Water and Power, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service, Bureau of Land Management	Management: Disease Control, Management: Land Use	Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Note: Continued implementation of action expected to be necessary after delisting.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	2.3.2	Develop an action plan in the event that a pneumonia outbreak occurs	Unknown			California Department of Fish and Game	Management: Disease Control	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	2.4	Manage human use locally where it is found to cause bighorn sheep to avoid important habitat and, thereby, compromises survivorship or reproductive success	Ongoing Current	FY 2000 - FY 2004		National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: General	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	1	3.1	Develop and implement a strategy for translocations	Ongoing Current	FY 2007		National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: Reintroduction	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	1	3.2.1	Manage wild herds as sources of stock	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Management: Reintroduction	Internal Field Assistance, Internal Technical Assistance	Note: Costs included in other actions.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	3.2.2	Develop criteria for and, if appropriate, implement a captive breeding program	Not Started			U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Other	Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	4	Implement a genetic management plan to maintain genetic diversity of Sierra Nevada bighorn sheep. The plan must use genetic variation gathered in action 6.1	Not Started			California Department of Fish and Game	Management: Other	Internal Field Assistance, Internal Technical Assistance, Species Expert	Note: Implementation costs included in 3.1; Action expected to be necessary until delisting of species.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	5.1	Develop and implement a monitoring plan for population abundance and distribution of bighorn sheep herds in the Sierra Nevada	Ongoing Current	FY 2000 - FY 2004		University of California, White Mountain Research Station, California Department of Fish and Game	Management: Population Monitoring, Research: Population Assessment, Research: Population Surveys	Internal Field Assistance, Internal Technical Assistance	Note: Continued implementation of action expected to be necessary after delisting.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	1	5.2	Monitor key predators in the vicinity of winter ranges	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Management: Predator and Competitor Control	Internal Field Assistance, Internal Technical Assistance	Note: Costs included in action 2.2.1; Action expected to be necessary until delisting of species.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	5.3	Monitor vegetation structure and composition changes likely to affect bighorn sheep population parameters.	Ongoing Current	FY 2000 - FY 2004		National Park Service, California Department of Fish and Game, U.S. Forest Service	Research: Habitat Status	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	5.4	Monitor exposure to disease organisms of concern	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Management: Disease Control	Internal Field Assistance, Internal Technical Assistance	Note: Action expected to be necessary until delisting of species.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	6.1	Investigate genetic population structure of existing herds	Not Started			University of California, White Mountain Research Station, California Department of Fish and Game	Research: Genetics	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.2	Develop a population viability analysis (PVA) for the Sierra Nevada Bighorn Sheep	Ongoing Current			University of California, White Mountain Research Station, California Department of Fish and Game	Research: Population Assessment	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.3	Further investigate habitat use patterns of bighorn sheep herds	Ongoing Current	FY 2000 - FY 2004		California Department of Fish and Game	Research: Other Information	Internal Field Assistance, Internal Technical Assistance, Species Expert	

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Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.4	Investigate and analyze human use patterns relative to habitat use patterns of bighorn sheep	Ongoing Current	FY 2007		National Park Service, California Department of Fish and Game, U.S. Forest Service	Research: Other Information	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.5	Investigate the potential for altering habitat use patterns of mountain lions on bighorn sheep winter ranges by aversive conditioning	Not Started			California Department of Fish and Game	Research: Other Information	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.6	Investigate future reintroduction sites relative to potential predator and domestic sheep problems and other potential conflicts	Ongoing Current	FY 2000 - FY 2004		National Park Service, California Department of Fish and Game, U.S. Forest Service	Management: Planning, Research: Other Information	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.7	Investigate and, if appropriate, develop a plan for decreasing mortality of bighorn sheep remaining at high elevation in extreme winters	Not Started			California Department of Fish and Game, U.S. Forest Service	Management: Planning, Research: Other Information	Internal Field Assistance, Internal Technical Assistance	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.8	Attempt to develop long term data that will help elucidate predator-prey dynamics of this ecosystem as they affect bighorn sheep	Ongoing Current	FY 2000 - FY 2004		University of California, White Mountain Research Station, National Park Service, California Department of Fish and Game, U.S. Forest Service	Research: Predation	Internal Field Assistance, Internal Technical Assistance, Species Expert	
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	6.9	Investigate effects of climate change on bighorn sheep habitat	Not Started			National Park Service, California Department of Fish and Game, U.S. Forest Service, U.S. Geological Survey - Biological Resources Division	Research: Climate Change	Internal Field Assistance, Internal Technical Assistance, Species Expert	Note: Both action duration and costs are to be determined (TBD).
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	7.1	Conduct a survey of public uses of bighorn sheep habitat and public attitudes regarding bighorn sheep	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: Other, Research: Other Information	Internal Field Assistance	

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Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	7.2	Develop and distribute information related to recovery efforts	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: Other	Internal Field Assistance	Note: Action expected to be necessary until delisting of species.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	3	7.3	Continue, update, and coordinate, existing informational and outreach programs and develop further programs as needed	Not Started			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service	Management: Other	Internal Field Assistance	Note: Action expected to be necessary until delisting of species.
Sierra Nevada bighorn sheep (Ovis canadensis sierrae)	2	8	Establish an implementation advisory team for coordination and communication	Ongoing Current			National Park Service, U.S. Fish and Wildlife Service, California Department of Fish and Game, U.S. Forest Service, Bureau of Land Management	Management: Other	Internal Field Assistance, Internal Technical Assistance, Species Expert, Volunteer	Note: Action expected to be necessary until delisting of species.